

## Base Metal

Thermal Solutions offers two basic types of base metal thermocouples with protection tubes: bare and ceramic insulated elements. Many variations of each type are available to meet your application needs.

### Features and Benefits

- Insulated wire thermocouples are suitable for most general purpose applications
- Bare and ceramic insulated elements available in ASTM E 230 Types K and J, can be twisted or butt welded and have choices that include straight or angle types, two-or-four-hole insulators and single or dual element
- Protected thermocouples are supplied complete with head, block and protection tube with a variety of styles available
- 2300°F (1260°C) maximum temperature

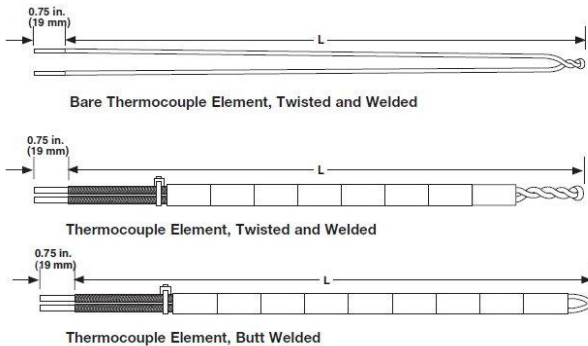


### Typical Applications

- Metal processing such as aluminum, zinc, brass (with appropriate protection tube)
- Chemical and Petrochemical
- Industrial storage tanks

### Bare Elements and Straight Elements with Two-Hole Insulators

To order, specify: Part number-length (Example: 1409-48 or 1436-BW-18)

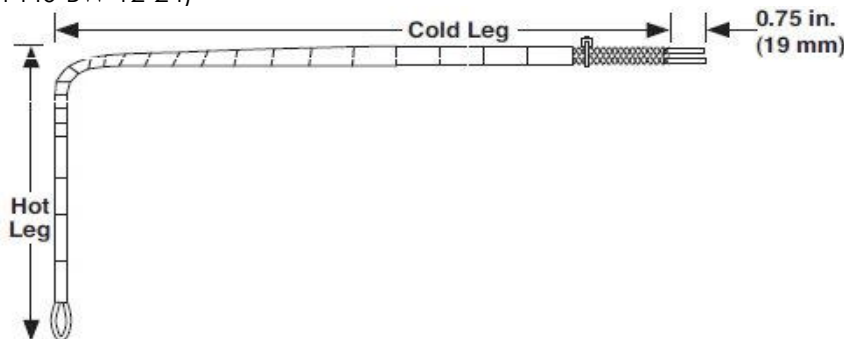


CODE		LENGTH		LIMITS		CODE		LENGTH		LIMITS	
<b>TYPE K</b>						<b>TYPE J</b>					
Twisted & Welded	Butt Welded	Wire Size	Insulator Part No.	Length (Inches)	Twisted & Welded	Butt Welded	Wire Size	Insulator Part No.	Length (Inches)		
1402	1432-BW	8	BARE	12, 18,	-	-	8	BARE	12, 18,		
1403	1433-BW	11	BARE	24, 30,	-	-	11	BARE	24, 30,		
1404	1434-BW	14	BARE	36, 42,	1503	1576-BW	14	BARE	36, 42,		
1409	1436-BW	8	301	48, 54,	1507	1578-BW	8	301	60, 66,		
1410	1437-BW	11	304	60, 66,	-	-	11	304	72		
1411	1437-BW	14	304		1509	1579-BW	14	304			
1412	1438-BW	20	328		1510	1580-BW	20	328			

Note: For special limits, add "-SP" Limits, otherwise leave blank

### Angle Type with Two-Hole Insulators

To order, specify: Part number-cold leg length-hot leg length (Example: 1440-BW-12-24)

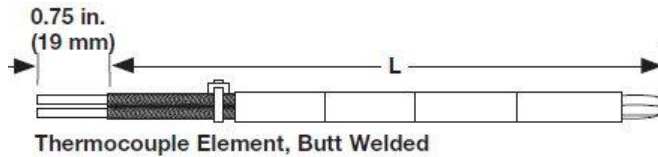


CODE		LENGTH		LIMITS	
<b>TYPE K</b>					
Butt Welded	Wire Size	Insulator Part No.	Hot Leg Length (in)		
1440-BW	8	301	24, 30, 36, 42, 48, 54, 60		

Note: For special limits, add "-SP" Limits, otherwise leave blank

## Dual Elements with Four-Hole Insulators

To order, specify: Part number-length (Example: 1442-BW-36)



Part Number:		CODE	LENGTH
<b>CODE</b>		<b>LENGTH</b>	
<b>1442-BW</b>	Type K, 14AWG	12	36 60
<b>1443-BW</b>	Type K, 20AWG	18	42 66
<b>1584-BW</b>	Type J, 14AWG	24	48 72
<b>1585-BW</b>	Type J, 20AWG	30	54

## Immersion Tips Base Metal Standard



SERV-RITE immersion tips are superior thermocouples for nonferrous molten metals. The hot junction is forged into the 446 stainless steel sheath for maximum sensitivity. Available in Type K calibration only.

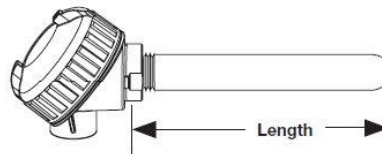
Part Number	Tip Length		Lead Length	
	inches	mm	inches	mm
<b>1449-501-T-8-43</b>	8	203	43	1092
<b>1449-M-12-43</b>	12	305	43	1092
<b>1449-M-15-43</b>	15	381	43	1092
<b>1449-M-20-43</b>	20	508	43	1092

**Note:** Not available outside the U.S.

## Standard Thermocouple with Protection Tubes

### Straight Type

To order, specify: Part number-length (Example: 1409-1308-24)



CODE		LENGTH						
TYPE K Code No.	TYPE J Code No.	Wire Size	Protection Tube		Pipe Dia (inches)	Const- ruction	Iron Head Part No.	Length (inches)
			Material	NPT (in)				
<b>1409-1395</b>	<b>1507-1395</b>	8	Alloy 601	1/2	0.840	Seamless	70900203	
<b>1409-1396</b>	<b>1507-1396</b>	8	Alloy 601	3/4	1.050	Seamless	70900202	12, 18,
<b>1409-1341</b>	<b>1507-1341</b>	8	304 SS	1/2	0.840	Welded	70900203	24, 30,
<b>1409-1342</b>	<b>1507-1342</b>	8	304 SS	3/4	1.050	Welded	70900202	36, 42,
<b>1409-1307</b>	<b>1507-1307</b>	8	446 SS	1/2	0.840	Seamless	70900203	48, 54,
<b>1409-1308</b>	<b>1507-1308</b>	8	446 SS	3/4	1.050	Seamless	70900202	60
<b>1409-1309</b>	<b>1507-1309</b>	8	446 SS	1	1.315	Seamless	70900201	

### 90 Degree Angle Type

To order, specify: Part number- cold leg length, hot leg length. Standard cold leg length is 18 inches.

CODE		LENGTH						
TYPE K Code No.	TYPE J Code No.	Wire Size	Protection Tube		Pipe Dia (inches)	Const- ruction	Iron Head Part No.	Length (inches)
			Material	NPT (in)				
<b>1414-1307-18</b>	<b>1517-1307-18</b>	8	446 SS	1/2	0.840	Seamless	70900203	
<b>1414-1328-18</b>	<b>1517-1328-18</b>	8	Black Steel	1	1.315	Welded	70900201	
<b>1414-1395-18</b>	<b>1517-1395-18</b>	8	Alloy 601	1/2	0.840	Seamless	70900203	12, 18,
<b>1415-1307-18</b>	<b>1518-1307-18</b>	14	446 SS	1/2	0.840	Seamless	70900203	24, 30,
<b>1415-1326-18</b>	<b>1518-1326-18</b>	14	Black Steel	1/2	0.840	Welded	70900203	36
<b>1415-1328-18</b>	<b>1518-1328-18</b>	14	Black Steel	1	1.315	Welded	70900201	
<b>1415-1395-18</b>	<b>1518-1395-18</b>	14	Alloy 601	1/2	0.840	Seamless	70900203	

